



CONTROLS OVER INVENTORY, TOOLS AND SAFETY MATERIALS PERFORMANCE AUDIT

JANUARY 2014



CITY OF DURHAM
AUDIT SERVICES DEPARTMENT

*“Provides independent, objective
assurance and investigative services”*

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To: Audit Services Oversight Committee
From: Germaine Brewington, Director
Audit Services Department
Date: **January 27, 2014**
Re: Controls Over Inventory, Tools and Safety
Materials Performance Audit

The Department of Audit Services completed the report on Controls Over Inventory, Tools and Safety Equipment Performance Audit dated January 2014. The purpose of the audit was to determine if adequate controls existed over items (inventory, tools and safety materials) used by the Storm Water and Street Maintenance Divisions in performing their operational activities determine the adequacy of .

This report presents the observations, results, and recommendations of the Controls Over Inventory, Tools and Safety Equipment Performance Audit dated January 2014. City management _____ with the recommendations made. Management's response to the recommendations is included with the attached report.

The Department of Audit Services appreciates the contribution of time and other resources from employees of the Department of Public Works in the completion of this audit.

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BACKGROUND INFORMATION

The purpose of the Public Works department is to operate, maintain and improve the City's street and utility infrastructure and programs in a manner that cost effectively enhances the community's livability.

As part of performing its stated purpose the Division of Street and Concrete Maintenance and Cleaning and the Division of Storm Water Maintenance have items that are used in operations which are housed at eight different locations. The department has the following items that are stored at the eight different locations:

- Inventory
- Safety materials
- Tools

The eight locations include:

Warehouse Location

The warehouse location maintains stock which is consistently in movement with high utilization.

Warehouse Field Location

The field location maintains stock including straw, concrete pipes, plastic pipes, steel crates, and manhole covers.

Maintenance/ Repair Shop Location

The maintenance and repair location maintains various stocks which support the repair or adjustment of Public Works equipment. These items include tools, oil, lubricating fluid, air tanks, nails and screws.

Shelter Locations

Multiple outside shelter locations are used to store inventory stock as well as supporting fixed asset equipment for the Street Maintenance division.

Stone and Sand Locations

Stone and sand are maintained at an adjacent City of Durham property located exactly ¼ of a mile from the PWOC entrance and directly across from a City of Durham Recreation Park facility.

Salt Locations

Two locations are used to store salt, which is used for de-icing City roads during the winter season. The salt is physically stored at the Department of Public Works and the Department of Fleet Management.

The table below shows the value of the Department of Public Works' inventory by location.

Department of Public Works' Inventory and Other Materials Summary (As at Nov 18, 2013)

Inventory By Location	Amount
Warehouse	8,686.00
Maintenance/Repair Shop	23,830.00
Warehouse Field	44,655.00
Stone and Sand Locations (2)	64,463.00
Salt Locations(2)	225,240.03
Shelters	3,702.00
TOTAL INVENTORY	370,576.00
Tools and Equipment	22,400.00
Safety Materials	1,781.00
TOTAL OTHER MATERIALS	24,181.00
TOTAL INVENTORY/OTHER MATERIALS	394,757.41

EXECUTIVE SUMMARY

Purpose

The purpose of the audit was to determine if adequate controls existed over items (inventory, tools, and safety materials) used by the Storm Water and Street Maintenance Divisions in performing their operational activities.

We conducted this performance audit in accordance with generally accepted governmental auditing standards. Those standards require that we plan and perform the audit to obtain sufficient and appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Results in Brief

Currently, an inventory management system is not utilized to track and manage inventory on hand by the Department of Public Works. In the absence of an Inventory Management system, audit staff examined and evaluated the manual processes in place to control inventory. Overall, lack of adequate controls existed over inventory maintained by the Department of Public Works. The Department staff recently undertook efforts to identify and value its inventory on hand. As a result of this effort all items in the warehouse are tagged and management has a comprehensive list of all items on hand. The Department staff plan to implement the City Works system to manage and track inventory. The implementation of the system will allow management to:

- Know how much inventory it has at any given time
- Know exactly where each piece of each product is located
- Ensure that all inventory remains in a usable condition
- Manage the acquisition and requisition of each product

OBJECTIVES, SCOPE AND METHODOLOGY

Objectives

The objectives of the audit were to:

- Determine if adequate controls existed over controlling inventory, tools and supplies;
- Determine if adequate processes existed to control obsolete inventory; and
- Review all reports of theft, abuse, or improper use of inventory, tools and supplies.

Scope

The scope of the audit included all current practices at the Department of Public Works concerning the tracking and managing of inventory, tools and supplies.

Methodology

Audit staff performed the following procedures to accomplish the objectives of the audit:

- 1 Documented (flow chart) the process for managing the use of inventory, tools and safety equipment;
- 2 Interviewed all staff responsible for the management of inventory, tools and safety equipment;
- 3 Examined how inventory, tools and safety equipment are issued ;
- 4 Examined the physical controls over inventory, tools, i.e. proper tag control measures, assignment of control numbers, and cycle counts;
- 5 Examined a sample of supporting documents to determine whether adequate controls existed over tracking and monitoring of inventory, tools and safety equipment;
- 6 Examined the process of ordering inventory, tools and

safety equipment;

- 7 Conducted an audit of the inventory list prepared by the Department of Public Works staff to determine if the list was complete and accurate;
- 8 Documented and reviewed the process for disposing of obsolete inventory;
- 9 Examined and reviewed any Police Department reports of theft of inventory and tools over the past two year period; and
- 10 Reviewed any personal actions of employees concerning theft of inventory and tools.

During the audit, staff also maintained awareness to the potential existence of fraud.

AUDIT RESULTS

An inventory management system was not utilized by the Department of Public Works to track inventory on hand

The benefit of a properly utilized and maintained inventory management system is that management:

- Knows how much inventory it has at any given time
- Knows exactly where each piece of each product is located
- Can ensure that all inventory remains in a usable condition
- Can oversee the use and purchase of each product

Currently, an inventory management system is not utilized to track inventory on hand by the Department of Public Works. The Department staff recently undertook efforts to identify and value its inventory on hand. As a result of this effort all items in the warehouse are tagged and management has a comprehensive list of all items on hand. Best practice suggests that every piece of inventory in the warehouse should be identified with a tag, which states the part number and description; otherwise inventory items can be misidentified. Audit staff tracked items from the floor to the list to determine if the inventory list was complete and also verified if all items were tagged properly. No exceptions were noted. The department plans to implement the City Works system to manage its inventory.

During field work, Audit staff ascertained from discussions held with Department of Public Works staff that they did not have a clear understanding of what items should be considered inventory. For instance, if items were earmarked for a specific project they initially did not consider including them on the list. Also, items purchased but not used for older projects were considered bench stock by the department staff. It is important that staff involved in managing inventory have a clear understanding of what items are considered inventory and whether they need to be tracked in the inventory system. If staff do not have a uniform understanding of what items are considered inventory, items purchased may not be tracked. Management will not be able to control or manage those items which are not tracked.

Adequate controls did not exist over inventory maintained by the Department of Public Works

In the absence of an inventory management system, Audit staff examined and evaluated the manual processes in place to control inventory. High volume of transactions and movement of inventory to support projects requires strong controls.

Written standard operating procedures (SOP) did not exist

The development and use of SOPs are an integral part of a successful quality system as it provides employees with the information to perform a job properly, and facilitates consistency in the quality and integrity of the end-result. At present, SOPs related to inventory, tools and safety equipment management do not exist. SOPs would provide guidance to staff in recording, tracking, issuing and reordering inventory, tools and safety equipment.

Adequate controls over issuance of inventory at the outside locations that house inventory did not exist

Outside locations that house inventory (PWOC outside shelter, Outside Yard area, Outside Remote Stone and Gravel Containment Area, salt domes)

An issuance protocol did not exist. Staff take as much material as needed and report the actual quantity of materials used on the Job Cost Sheet upon completion of the project.

Adequate controls existed over the issuance of inventory at the warehouse and the Maintenance Repair Shop

The Maintenance Repair shop staff record all items used on the Transfer Form as it is being used. Each issuance is tied to specific equipment. Items that are picked up by a crew member to use in the field are also issued on a Transfer Form.

Lack of a reconciliation existed between what was issued to what was used

The issuance of inventory from the warehouse was tracked using Transfer Forms. The Transfer Form captures information about what was issued, how much was issued and to whom inventory was issued. However, the projects that specific items were requisitioned for were not documented on the Transfer Forms. Once the issued items are used, they get reported on a Job Cost Sheet. The information on the Job Cost Sheet is entered into the City Works system in order to track materials used on a given project. A reconciliation is not performed between what was issued (reported on the Transfer Form) to what was used (reported on the Job Cost Sheet). The Transfer Form does not have a project number and therefore department staff cannot tie the inventory issuance on the Transfer Form to a Job Cost Sheet. Not reconciling what was issued to what was used, increases the risk of fraud/abuse.

A process to identify and dispose of obsolete inventory did not exist

Best practice suggests that staff should conduct a periodic obsolete inventory review. The warehouse can eventually become cluttered with obsolete inventory that cannot be used, which can interfere with storage space, increase storage costs and increase the risk of theft and abuse.

At present, SOPs do not exist that require a review for identifying and disposing of obsolete items. Observations performed by Audit staff revealed several items that appeared obsolete. Management stated that certain items even though old had to be maintained in inventory, as the City had old infrastructure and replacement parts were no longer available. However, they also acknowledged that this applies to some of the items and not all the items that had no movement. During field work management was notified of the importance to have proper procedures to identify obsolete inventory. During the course of the field work Audit staff observed that management directed staff to identify and separately store certain inventory items for disposal that had no further use to the operations of the City.

Disorganized inventory existed

Organizing the inventory can act as an additional layer of control. It may not seem like a control to simply organize the inventory but if you cannot find it, you cannot control it. Thus, a fundamental basis for inventory internal control is to number all locations, identify each inventory item, and track these times by location. Also, goods and resources of the same and similar type should be kept in the same area to minimize confusion and error in the inventory count. At present, inventory is not maintained in an organized fashion. Organization can be improved to ensure that like inventory is maintained thus decreasing count errors.

Reordering issue

The reordering of inventory is done as a visual validation of supplies and usage rather than pre-determined established minimum stocking levels.

Adequate controls over safeguarding of inventory at some of the locations did not exist

Inventory should be stored in secure areas so that it is not stolen, abused or damaged. The inventory is stored in several locations; some locations are not secure.

Warehouse Location and the Maintenance/Repair Shop Location:

Both of these locations were noted to be well supervised and maintained. Each location demonstrated that the buildings which stored the inventory were locked when the supervisor was away from his assigned work station. However, the alarm system is not activated.

Salt Dome:

Two covered locations are used to store salt. These locations were not lockable and by all accounts were determined to have minimum risk of theft or misuse by unauthorized and authorized individuals. To make significant use of the asset, a large machine would be needed to move the materials and would be very visible to management. However, one of the domes was overstocked.

Over stocking the inventory causes damage to the storage facility and damage to the inventory resulting in wasted resources and reduced ability to effectively retrieve and utilize the product. Currently, salt from the over stocked dome has been removed and is stored outside. The dome has not been filled back to capacity.

PWOC Outside Yard:

This location houses various inventory items which are not secured and are not monitored by inventory control staff.

PWOC Outside Remote Stone and Sand Area:

This location is near a City Public Park and is next to a City Parks Recreation Community Picnic Shelter. It is secured by a single lockable bar which was observed as not being locked after hours or on weekends on several occasions during audit observations. However, this location consists of non-perishable materials which would require a large truck and moving equipment to remove it from its location in an efficient and timely manner. Risk of theft is minimal.

PWOC Outside Shelters:

Inventory is in open non-controlled areas. The items maintained in the shelters are a lot easier to remove because the items are in boxes and they could be easily removed with the use of any moving equipment.

Management is in the process of identifying and relocating items to improve its controls over inventory.

Adequate controls did exist over tools and safety equipment

The department tracks tools and safety equipment usage on Daily Sign Out sheets. The Daily sign out sheet captures the date, employee number, employee name, division, material check out and the date it was returned. Current processes in place are adequate given the dollar amount spent on purchases of supplies and tools by the department.

Conclusion

Currently, an inventory management system is not utilized to track and manage inventory on hand by the Department of Public Works. In the absence of an inventory management system, audit staff examined and evaluated the manual processes in place to control inventory. Overall, lack of adequate controls existed over inventory maintained by the Department of Public Works. The Department staff recently undertook efforts to identify and value its inventory on hand. As a result of this effort all items in the warehouse are tagged and management has a comprehensive list of all items on hand. The Department staff plan to implement the City Works system to manage and track inventory. The implementation of the system will allow management to:

- Know how much inventory it has at any given time
- Know exactly where each piece of each product is located
- Ensure that all inventory remains in a usable condition
- Manage the use and purchase quantities for each product

RECOMMENDATIONS

Recommendation 1

The Department of Public Works should implement an inventory management system to monitor and manage inventory. When implementing the inventory management system management must ensure the following:

- Inventory is requisitioned out to a project so that it can be reconciled with the actual usage
- All inventory bought should be recorded in the inventory system, even if it was ordered specifically for a project
- Returns after issuance, damages and scrap should be accounted for effectively in the system
- The system should be used to issue inventory, reorder and track what is in stock
- Pre-order levels for items should be determined if appropriate based on the usage

The Department should establish written operating procedures to address inventory management. The operating procedures should address at a minimum: 1) tagging and recording of all initial incoming inventory; 2) inventory issuance; 3) return of access amounts back into inventory; 4) re-ordering of inventory; 5) conducting cycle counts; 6) dealing with obsolete inventory.

Recommendation 2

The Department of Public Works should effectively train employees in inventory management.

Recommendation 3

The Department of Public Works should schedule and perform annual physical inventory counts. The Department of Public Works should also conduct a periodic obsolete inventory review.

Recommendation 4

The Department of Public Works should continue its efforts to appropriately secure and organize its inventory. These efforts should be based on an increased awareness of the need to secure the Public Works Operations Center (PWOC) supplies and inventory. PWOC staff should be trained to observe any unauthorized movements of supplies and inventory. Specifically, the department should:

- Locate the stone and sand in an area which has limited access to the public and can easily be observed for movement by PWOC staff
- Use the lock and security system as designed by the manufacture to secure inventory that is maintained in lockable areas

Recommendation 5

The Department of Public Works should determine if tracking tools and safety equipment using City works is cost effective.

Recommendation 6

The Department of Public Works should ensure that the salt stored in the salt domes does not exceed the storage capacity. In addition, they should ensure that salt currently stored outside is placed back in the dome up to the maximum allowed capacity.

MANAGEMENT'S RESPONSE



**CITY OF
DURHAM**

Date: January 17, 2014
To: Germaine F. Brewington – Director of Audit Services
Through: W. Bowman Ferguson – Deputy City Manager
From: Marvin G. Williams – Director of Public Works
Cc: Coleman Brown – Assistant Director of Public Works
Dwight Murphy – Asst. Street Superintendent
John J. Scott – Business Services Manager
Subject: DPW Management Response – Controls over Inventory,
Tools and Safety Material Audit

The following is the Department of Public Works (DPW) management's response to the Controls Over Inventory, Tools and Safety Materials Performance Audit.

Recommendation #1:

The Department of Public Works should implement an inventory management system to monitor and manage inventory. When implementing the inventory management system management must ensure the following:

- Inventory is requisitioned out to a project so that it can be reconciled with the actual usage
- All inventory bought should be recorded in the inventory system, even if it was ordered specifically for a project
- Returns after issuance, damages and scrap should be accounted for effectively in the system
- The system should be used to issue inventory, reorder and track what is in stock
- Pre-order levels for items should be determined if appropriate based on the usage.



The Department should establish written operating procedures to address inventory management. The operating procedures should address at a minimum: 1) tagging and recording of all initial incoming inventory; 2) inventory issuance; 3) return of excess amounts back into inventory; 4) re-ordering of inventory; 5) conducting cycle counts; 6) dealing with obsolete inventory.

DPW Management's Response:

- We concur. DPW management is in full agreement with the recommendation.

DPW will re-institute the use of the inventory control management module that currently exists within Computerized Maintenance Management System (CMMS) – Cityworks by Fall 2014 to address the items outlined in the recommendation listed above. Training of the inventory control staff for DPW will be conducted during the first quarter of 2014; and training for the maintenance division supervisors will be conducted during the second, third and fourth quarters of 2014 on the use of this inventory control module.

In addition, a baseline inventory count of all raw materials, tools and safety equipment will be completed by June 2014. A draft standard operating procedure will be prepared by fall 2014 for use by DPW inventory control staff that address the items listed in the recommendation.

Recommendation #2:

The Department of Public Works should effectively train employees in inventory management.

DPW Management's Response:

- We concur. DPW management is in full agreement with the recommendation.

As stated in our response to recommendation #1, DPW will conduct employee training on the use of the inventory control management module of Cityworks during the remainder of calendar year 2014. Additional training will be provided as training opportunities are identified.

Recommendation #3:

The Department of Public Works should schedule and perform annual physical inventory counts. The Department of Public Works should also conduct a periodic obsolete inventory review.

DPW Management's Response:

- We concur. DPW management is in full agreement with the recommendation.

DPW will schedule an annual physical inventory of all materials on-site in June of each year; Audit staff will be invited to review these inventories. DPW will also perform 6-month reviews of obsolete inventory items that are housed at the Public Works Operations Center.

Recommendation #4:

The Department of Public Works should continue its efforts to appropriately secure and organize its inventory. These efforts should be based on an increased awareness of the need to secure the Public Works Operations Center (PWOC) supplies and inventory. PWOC staff should be trained to observe any unauthorized movements of supplies and inventory. Specifically, the department should:

- Locate the stone and sand in an area which has limited access to the public and can easily be observed for movement by PWOC staff
- Use the lock and security system as designed by the manufacture to secure inventory that is maintained in lockable areas.

DPW Management's Response:

- We concur with reservations. Management is in agreement with the recommendation, but there are circumstances that could affect its implementation which have to be resolved.

The ability of DPW to adequately locate raw materials to limit public access and observe movement of this material is limited due to several facility upgrades that are needed at the PWOC, but have not been funded for completion. Specifically, there are issues with the amount of space available at the PWOC for the storage of materials due to:

- The amount of heavy equipment and light duty equipment housed at this facility
- The fact that the facility is located within a floodplain and experiences flooding on a somewhat routine basis
- The security systems that are in-place at the facility are out of date

- and have not been adequately maintained for the past several years
- The physical layout of buildings and storage sheds on the site limit the ability of DPW staff to observe the movement of materials on a regular basis
- The location of the PWOC is near a residential area, heavily used trail, City park and major thorough-fare; which all generate a significant amount of traffic around and within the complex.

In order to fully address the material storage and security system at the PWOC; a significant financial investment will need to be made to:

- Upgrade the security system at the PWOC
- Renovate the storage areas for raw material storage
- Relocate a portion of the heavy and light-duty equipment that is stored at this site
- Reevaluate the number of buildings and storage sheds on the site, and possibly remove a select group of building(s) and storage sheds.

Several of these items have been submitted for funding through the City's deferred maintenance and Capital Improvement Program (CIP) process; and will be completed as funding is provided.

Recommendation #5:

The Department of Public Works should determine if tracking tools and safety equipment using City works is cost effective.

DPW Management's Response:

- We concur. DPW management is in full agreement with the recommendation.

DPW will evaluate the need to track select tools and safety equipment and will identify what items to track on a long-term basis by July 2014.

Recommendation #6:

The Department of Public Works should ensure that the salt stored in the salt domes does not exceed the storage capacity. In addition, they should ensure that salt currently stored outside is placed back in the dome up to the maximum allowed capacity.

DPW Management's Response:

- We concur. DPW management is in full agreement with the recommendation.

DPW will no longer purchase salt in excess of the capacity of the salt domes that are maintained by the department. In addition, the current excess salt will be placed into the salt domes as space becomes available or used during winter weather events during this fiscal year.